

State of California
The Resources Agency
Department of Fish and Game
Marine Resources Operations
California State Fisheries Laboratory
Terminal Island, California

Cruise Report 66-S-3

Vessel: N. B. SCOFIELD - Dates: April 30 - May 1, 1966

Locality: Coastal waters from Santa Cruz to Davenport Landing.

Purpose: Determine the salinity and temperature of waters adjacent to proposed marine laboratory sites which may be used in conjunction with the temperature and salinity profiles of Monterey Bay reported by Hopkins Marine Station.

Operations: Sea surface temperatures were continuously recorded by thermograph. Water samples and BT casts were made every two miles along the 10, 20, and 40 fathom contours from Santa Cruz Point to El Jarro Point (Figure 1).

Results: The lowest surface temperature, 53°F, was recorded at station 4 (Table 1). The highest temperature, 58.8°F, was recorded inshore near Santa Cruz Point (Station 1). Temperatures were fairly uniform at off-shore stations, and ranged between 57 and 58°F. The temperature inside Santa Cruz Harbor was 60.8°F.

Salinities ranged from 32.9 to 34.2, and were generally higher near shore as a result of upwelling occurring at stations 3 and 4 (Table 1).

Bathythermograph casts at stations 5 through 12 showed a strong thermal gradient between the surface and 150 feet. A clear thermocline was evident, beginning at 30 feet below the surface at stations 9 through 12 (Table 1).

The salinity and temperature pattern is typical for the Monterey Bay area. The influence of upwelling is apparently less pronounced in the Santa Cruz Point area, and this may account for the higher temperatures around the Point and in the harbor area.

Personnel: R. L. Poole, Biologist
R. B. Mitchell, Vessel Captain

TABLE 1

Surface Salinities and Temperatures

STATION Number	DEPTH (fms)	SALINITY								
			Surface	25'	50'	75'	100'	125'	150'	200'
1	10	33.7	58.8	--	--	--	--	--	--	--
2	10	34.2	58.0	--	--	--	--	--	--	--
3	10	33.8	54.5	--	--	--	--	--	--	--
4	10	33.7	53.0	--	--	--	--	--	--	--
5	20	33.7	58.0	55	55	53.5	52	--	--	--
6	20	33.5	58.0	55	54	52.5	52	--	--	--
7	20	33.5	57.0	55.5	53	52	52	--	--	--
8	20	33.8	53.5	53.5	53.5	53.5	52.5	--	--	--
9	40	33.2	57.0	56	52	51.5	50.5	50	50	49.5
10	40	33.3	57.5	54	52	51.5	51	50.5	50.5	50
11	40	33.5	57.5	57.5	53	51.5	51	50.5	50	50
12	40	32.9	57.0	56.5	56	56.5	51	51	50.5	--

Figure 1 Location of Oceanographic Stations,
Numbers Indicate Station Location.

